

REMARKS

Claims 1-14, as amended, are pending in this application. Claims 1 and 8 have been amended to include features that are subsets of claims 6 and 13 respectively so as to further clarify the patentable features of the present invention. The dependent claims support the proposed amendments so that no new matter is added. Thus, these amendments should all be entered at this time to reduce the issues for appeal.

In the Office Action, claims 1-14 are rejected as being obvious over U.S. Patent No. 6,384,917 to Fradkin (hereinafter "Fradkin"). Applicants submit that claims 1-14 are allowable in view of Fradkin at least because Fradkin does not show or suggest all the features that are recited in those claims.

As explained in prior responses, Fradkin discloses a method and apparatus for matching tooth color, in which a light source is provided with an illumination lens and a relay lens to direct light to illuminate a measurement point in a chosen zone (region) of a tooth selected in a patient's mouth. Light reflected from the tooth is passed through a third lens which focuses the reflected light simultaneously on three detectors. The three detectors produce an output signal representing the color related to the measurement point. The process is repeated for a total of three zones on the tooth, developing a color vector set for comparison with a predetermined color vector set to match the closest color vector, allowing the tooth color to be classified as corresponding to one of the colors in the Master Teeth Set. In this processing, the color characteristics of a point representing a region of the patient's tooth is compared to the entire Master teeth set (1,2,3, ... M) and not just to the regions corresponding to color characteristics for tooth shades that is associated with that same region (*see*, col. 4, lines 41-50), as is the case in the present invention.

The present invention is a significant improvement over Fradkin in that it analyzes color characteristics of selectively identified regions of the patient's tooth in order to determine the shade of the tooth for the selectively identified regions and not just analyzing color characteristics of a point representing a region, as is the case in Fradkin (*see*, e.g., Fradkin, abstract). In the system and method of the present invention, the color content of an entire region is processed before comparison to the information in the database. Furthermore, the color


characteristics of a region of the patient's tooth are compared with corresponding color characteristics for tooth shades in the database that is associated with that same region.

Claims 1 and 8 have been amended to recite that tooth shades are identified for each selectively identified region of the patient's tooth by comparing the values generated from each region with the set of values stored in the database for the corresponding tooth region and selecting the closest color matching values as the identified tooth shades for each region. Claims 6 and 13 recite that the same color characteristics are compared. As discussed above, Fradkin discloses a method where the color characteristics of a point representing a region of the patient's tooth is compared to the entire Master teeth set (1,2,3, ... M) and not just to the regions corresponding to color characteristics for tooth shades that is associated with that same region. Nowhere does Fradkin describe or suggest comparing the values generated from each region with the values stored in the database for the corresponding tooth region and selecting the closest color matching values as the identified tooth shades for each region. Accordingly, all the features of claims 1 and 8 are not described or suggested by Fradkin. Therefore, based on the foregoing, withdrawal of the rejection of claim 1 is respectfully requested. Since independent claims 1 and 8 are allowable, claims 2-7 and 9-14 that depend therefrom are also allowable.

For the foregoing reasons, applicant submits that all of the current claims are patentable over the cited art and respectfully requests reconsideration and an early indication of allowance. Should the Examiner not agree with Applicants' position, then a personal or telephonic interview is respectfully requested to discuss any remaining issues in an effort to expedite the eventual allowance of the application.

Respectfully submitted,

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